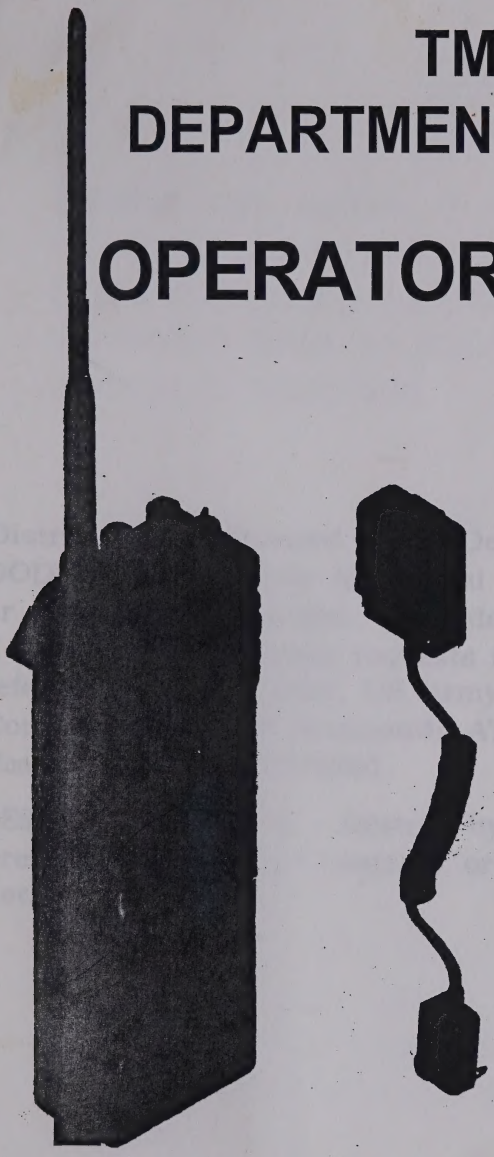
TM 11-5820-I 048-110

DEPARTMENT OF THE ARMY

OPERATOR'S MANUAL



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RADIO SET AN/PRC-127

(NSN 5820-01-266-5964)

1 JANUARY 1991'

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WARNING

Batteries can explode if exposed to extreme heat. Do not store battery packs with other hazardous materials. Store in a cool [less than 130°F **(54°C)],** dry, well-ventilated area to prevent injury to personnel or damage to equipment.

WARNING

Batteries contain corrosive material that can cause injury to personnel. Do not crush, puncture, mutilate, or disassemble battery packs.

WARNING

Do not dispose of alkaline batteries in fire. Do not recharge batteries, put in backwards, or mix with used or other battery types. Alkaline batteries may explode, leak, and cause injury to personnel or damage to equipment.

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*TM 1 I-5820-1048-10

TECHNICAL MANUAL

Headquarters,
Department of the Army
NO. 11-5820-1048-10 Washington, DC, 1 January 1991

Operator's Manual
RADIO SET AN/PRC-127
(NSN 5820-01-266-5964)

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) direct to Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-LC-LM-LT, **Fort Monmouth, New Jersey 077034000. A reply will be furnished to you.**

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*This manual supersedes TM 1 I-5820-1048-10, dated 1 February 1990, which shall be destroyed in accordance with applicable security regulations.

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HOW TO USE THIS MANUAL

This is a quick reference manual that has been written just for you. Become familiar with its contents so that you will be able to find what you need quickly.

This manual will show you how to:

- **OPERATE**
- **MAINTAIN**

YOUR RADIO SET AN/PRC-127

It is small enough to fit in your pocket so you can always have it ready for quick reference. After you have had some time to use it, take a moment to let us know what you think about it.

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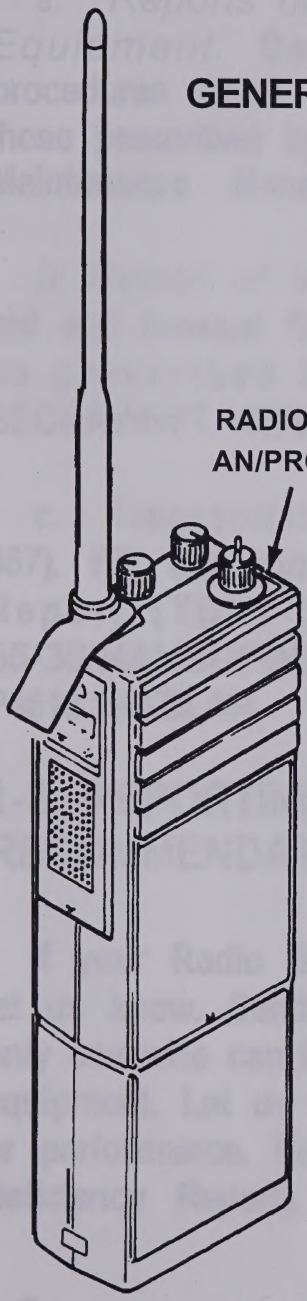
CHAPTER 1
INTRODUCTION

Section I.
GENERAL INFORMATION



I-1. SCOPE

This manual tells the user how to operate Radio Set AN/PRC-127.

1-2 MAINTENANCE FORMS, RECORDS, AND REPORTS

a. *Reports of Maintenance and Unsatisfactory Equipment.* **Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA Pam 738-750, as contained in Maintenance Management Update.**

b. *Report of Item Packaging Discrepancies.* **Fill out and forward SF 364 [Report of Discrepancy (ROD)] as prescribed in AR 735-11-2/DLAR 4140.55/ SECNAVINST 4355.18/AFR 400-54/MC04430.3J.**

c. *Transportation Discrepancy Report (TDR) (SF* **367). Fill out and forward Transportation Discrepancy Report (TDR) (SF 361) as prescribed in AR 55-38/NAVSUPINST 4610.33C/AFR 75-1 8/MCO P4610.19D/DLAR 4500.15.**

1-3 REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIRs)

If your Radio Set AN/PRC-127 needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. Put it on an SF 368 (Product Quality Deficiency Report). Mail it to: Commander, US Army

Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-ED-WI, Fort Monmouth, **New Jersey, 07703-5000. We'll send you a reply.**

1-4. WARRANTY INFORMATION

The Receiver/Transmitter RT- 1594/PRC-127 is warranted by the King Radio Corporation for 24 months from acceptance as evidenced by the signing of DD Form 250 by an authorized Government representative of acceptance for the equipment or 12 months after handoff to a field unit, whichever occurs first. Report all defects in material or workmanship to your supervisor, who will take appropriate action through your unit maintenance shop.

1-5 NOMENCLATURE CROSS-REFERENCE LIST

Common names will be used when following major components are mentioned in this manual.

Common Name	Official Nomenclature
radio set	Radio Set AN/PRC-127
R/T	Receiver/Transmitter RT-1594/PRC-127
antenna	Antenna AS-3960/PRC-127

Section II.
EQUIPMENT DESCRIPTION

1-6 PURPOSE AND USE OF RADIO SET AN/PRC-127

The radio set is a hand-held, **14-channel** receiver/transmitter that provides two-way radio communications in the 136 to 160 MHz frequency range. Dc power is provided by a detachable battery pack. The radio set consists of an R/T, an antenna, two rechargeable nickel-cadmium **(Ni-Cd)** battery packs and one nonrechargeable alkaline battery pack, a speaker/microphone, a speaker/microphone cover, door microphone, a speaker/microphone cover, door cover, an R/T holster, and a battery charger. These major components are described in paragraph 1-7

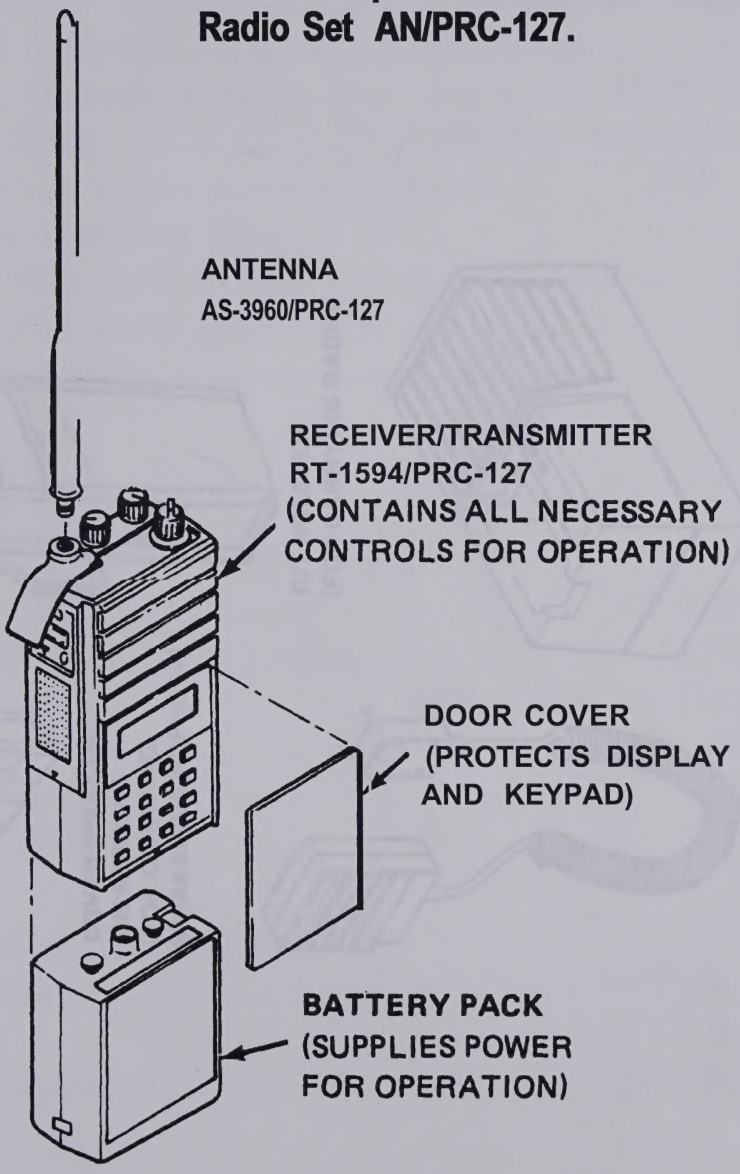
Section II.
EQUIPMENT DESCRIPTION

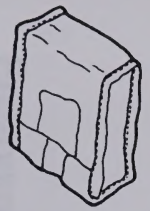
1-6 PURPOSE AND USE OF RADIO SET AN/PRC-127

The radio set is a hand-held, 4-channel receiver/transmitter that provides two-way radio communications in the 138 to 149 MHz frequency range. Dc power is provided by a detachable battery pack. The radio set consists of an RT, an antenna, two rechargeable nickel-cadmium (Ni-Cad) battery packs and one nonrechargeable alkaline battery pack, a speakermicrophone, a speakermicrophone cover, door microphone, a speakermicrophone cover, door cover, an RT holster, and a battery charger. These major components are described in paragraph 1-7.

1-7 LOCATION AND DESCRIPTION OF MAJOR COMPONENTS

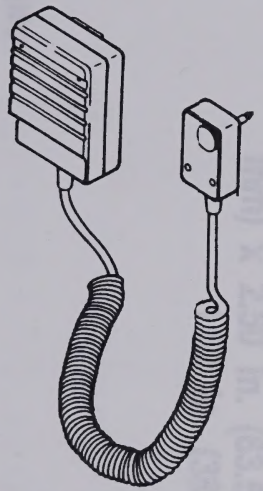
The components shown make up Radio Set AN/PRC-127.



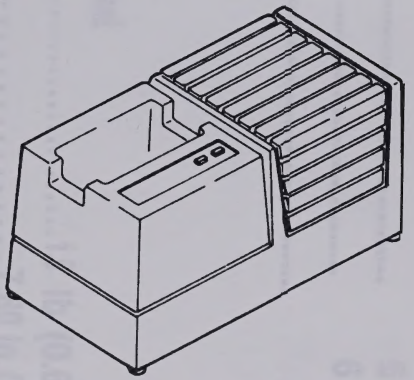


COVER SPEAKER/ MICROPHONE
(FOR CARRYING SPEAKER/MICROPHONE)

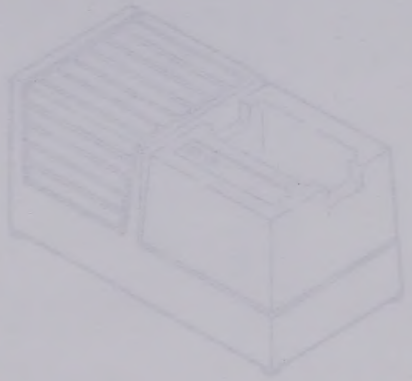
R/T HOLSTER
(FOR CARRYING RADIO)



SPEAKER/ MICROPHONE
(FOR TRANSMITTING AND RECEIVING)



BATTERY CHARGER
(FOR CHARGING BATTERY PACK)



I-8. R/T UNIT AND BATTERY PACK DATA

General

Frequency ..... 136.000 to 160.00 MHz
Preset channels 14
Preset channel spacing ..... programmable
Modulation ..... frequency modulation (fm)
Range ..... 3000 meters
Battery operating time
Alkaline battery pack ..... 6 hours
Ni-Cd battery pack ..... 6 hours
Power output ..... 2 w

Physical

Weight (including battery and antenna, no handset) .....1.5 lb (0.68 kg)
Size R/T unit including battery .....7.80 in.(198.1 mm) x 2.50 in. (63.5 mm) x 1.52 in. (38.6 mm)

Environmental

Operating temperature range ..... -11°F to +111°F (-24°C to +44°C)
Watertightness .....not immersible

I-8. RIT UNIT AND BATTERY PACK DATA

General

Frequency ..... 136.000 to 162.00 MHz
Preset channels 14
Preset channel spacing ..... programmable
Modulation ..... frequency modulation (fm)
Range ..... 3000 meters
Battery operating time
Alkaline battery pack ..... 8 hours
Ni-Cd battery pack ..... 6 hours
Power output ..... 2 W

Physical

Weight (including battery and
antenna, no handset) .....15 lb (0.68 kg)
Size RIT unit including battery .....7.80 in.(198.1
mm) x 2.60 in. (63.5 mm) x
1.52 in. (38.6 mm)

Environmental

Operating temperature
range ..... -11°F to +131°F
(-24°C to +44°C)
Watertightness .....not immersible

1-9. BATTERY CHARGER DATA

General

Input voltage ..... 115 V ac/230 V ac (selectable)
Input frequency ..... 50/60 Hz
Input power 15W
Charge current
  Slow Charge rate
    Minimum ..... 60 mA
    Maximum ..... 140 mA
  Fast charge rate
    minimum ..... 700 mA
    maximum ..... 1100 mA

Physical

Weight ..... 3.25 lb (1.47 kg)
Size ..... 6.75 in. (171.5 mm) x 3.25 in. (82.6 mm) x 3.37 in. (85.6 mm)

Environmental

Operating temperature range ..... +32°F to +140°F (0°C to +60°C)
Humidity ..... 0 to 90% at ambient temperature of +95°F (+35°F)

Section III.
TECHNICAL PRINCIPLES OF OPERATION

I-1 0. RECEIVERTRANSMITTER RT-1594/PRC-127

The RT contains the circuitry to receive and transmit voice signals over a distance of 3000 meters using any one of up to 14 preset channels. Each of the 14 channels is preset to a specific frequency. A volume control is provided to adjust the receive signal to a comfortable listening level. A squelch control is provided to inhibit noise and unwanted receiver signals. A push-to-talk control is provided to key the transmitter. The control is pressed to talk and released to listen. A speakermicrophone is built into the RT for use without an external speakermicrophone.

NOTE

The RT preset operational channels are programmed as a maintenance function by unit maintenance support personnel.

I-1 1 . ANTENNA AS-3960/PRC-127

The antenna is used to interface the received and transmitted signals with the R/T. This omnidirectional, flexible antenna attaches to the R/T via a connector and can be detached for storage or shipment.

I-12. BATTERY PACK

The battery pack supplies dc operating power to the R/T. The battery pack attaches to the bottom of the R/T and is held in place by a spring clip and bracket on the R/T and posts on the battery pack. The battery pack can be removed easily for replacement. Two types of battery packs are provided. One type is a rechargeable Ni-Cd battery pack. The second type contains nonrechargeable alkaline batteries. The Ni-Cd battery pack may be recharged while either attached or detached to/from the R/T.

1-11. ANTENNA AS-3580/PRC-127

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1-13. SPEAKER/MICROPHONE

The speaker/microphone clips securely to collar or lapel to provide communication without removing the R/T from the operator's belt. A built-in feature on the speaker/microphone allows the operator to speak directly into the microphone attached to the lapel while keying the transmitter using the push-to-talk control on the R/T attached to the belt. The speaker/microphone is attached to the R/T via connectors.

1-14. SPEAKER/MICROPHONE COVER

The speaker/microphone cover is a nylon cover used to protect the speaker/microphone from the environment.

1-I 5. R/T HOLSTER

The R/T holster is a nylon cover used to carry and protect the R/T, with battery pack attached, from the environment. An opening in the holster flap allows the antenna to be attached while the R/T is in the holster. Hardware is provided to attach the holster to the operator's belt.

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1-I 6. BATTERY CHARGER

The battery charger is used to charge the Ni-Cd battery packs. The battery charger provided is a desk-type charger that charges to 90% of full charge in 1 hour. Once the charging function is complete, the unit will automatically switch to a trickle rate to maintain the charge without overheating the battery pack. The rate of charge in progress is indicated by lamps on the battery charger. A green lamp indicates the minimum rate of charge or trickle rate. **A** red lamp indicates the maximum rate of charge is in progress up to 90% full charge. The battery charger operates on either 115 V ac or 230 V ac source voltage. A switch on the underside of the battery charger must be set to the proper voltage before use. An adapter, suited to geographical location, is required for 230 V ac operation.

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CHAPTER 2
OPERATING INSTRUCTIONS

Section 1.
DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS

2-I . GENERAL

You should not attempt to operate the radio set until you fully understand the operation and function of the controls and indicators. The normal operating procedures are given in Section III of this Chapter.

2-2. CONTROLS AND- INDICATORS

The following keyed illustrations and text serve to provide the operator with basic understanding of the radio set controls and indicators.

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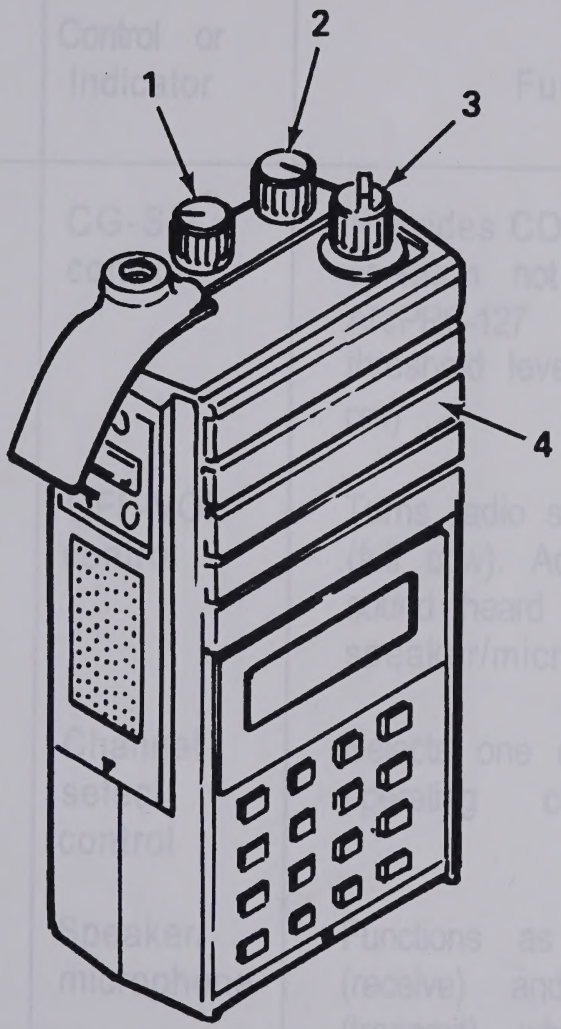
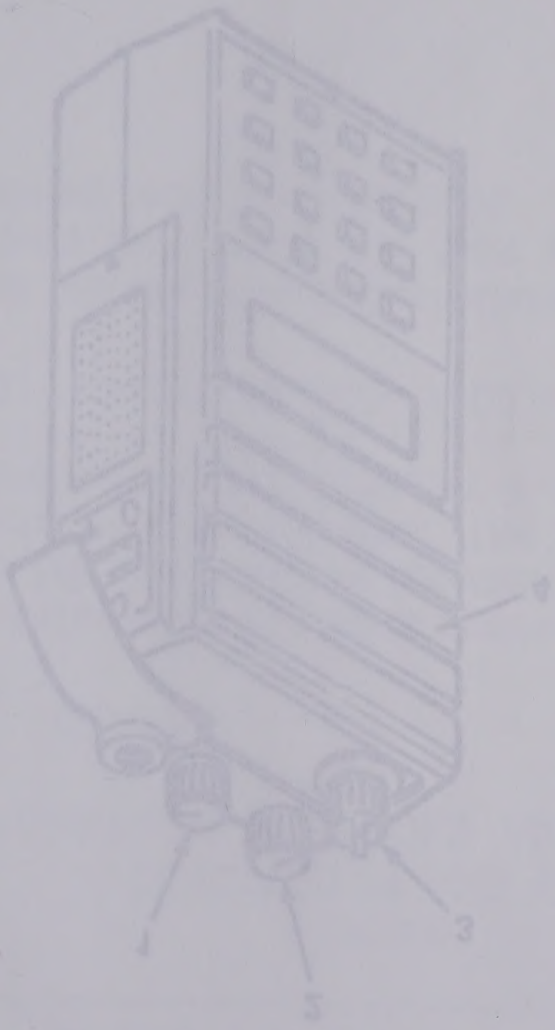


NOTE: DOOR COVER REMOVED FOR ACCESS TO DISPLAY AND KEYPAD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2-2. CONTROLS AND INDICATORS - CONT

Key	Control or Indicator	Function
1	CG-SQ control	Provides CODE GUARD operation not available on the AN/PRC-127 and sets squelch threshold level (cw) or off (full ccw) .
2	OFF-VOL control	Turns radio set on (cw) or off (full ccw). Adjusts level of sound heard from radio set or speaker/microphone.
3	Channel select control	Selects one of 14 preset operating channels.
4	Speaker/ microphone	Functions as built-in speaker (receive) and microphone (transmit) when external speaker/microphone is not connected.

2-2. CONTROLS AND INDICATORS - CONT

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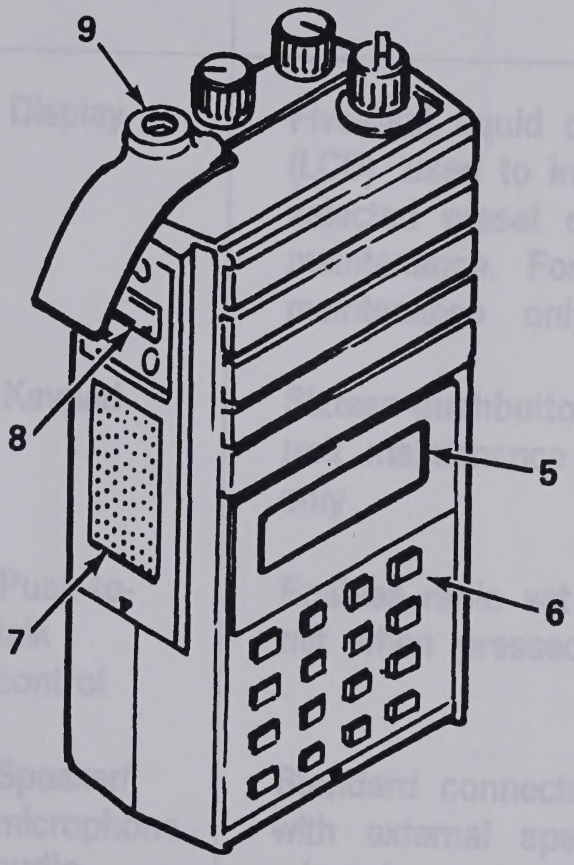

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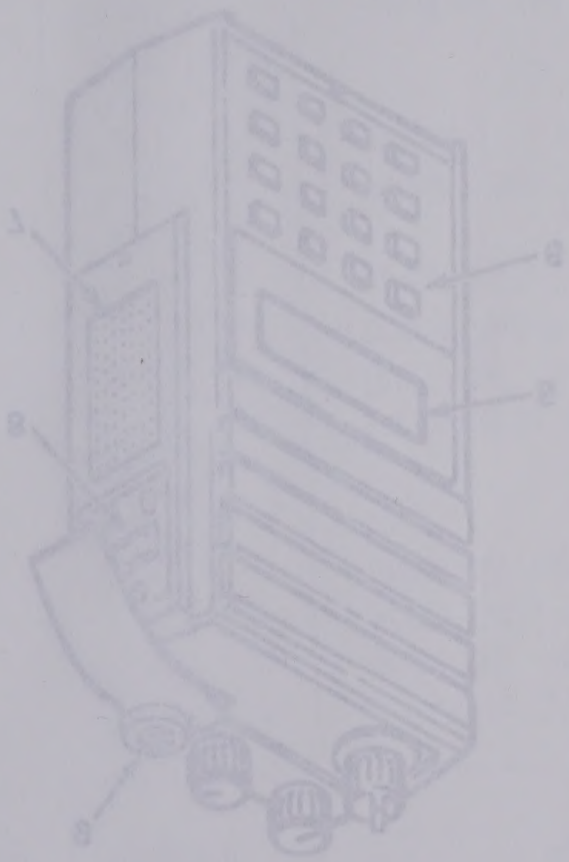

Key	Control or Indicator	Function
5	Display	Five-digit liquid crystal display (LCD) used to indicate selected preset channel and maintenance. For unit maintenance only.
6	Keypad	Sixteen-pushbutton keypad for unit maintenance level use only.
7	Push-to-talk control	Enables radio set to transmit when pressed.
8	Speaker/ microphone audio connectors	Standard connectors for use with external speaker/ microphone
9	Antenna connector	Connects antenna to radio set.

2-2. CONTROLS AND INDICATORS - CONT

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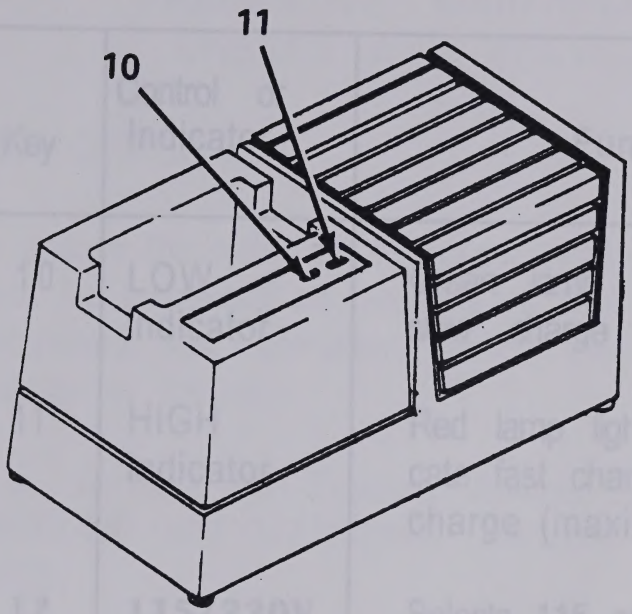
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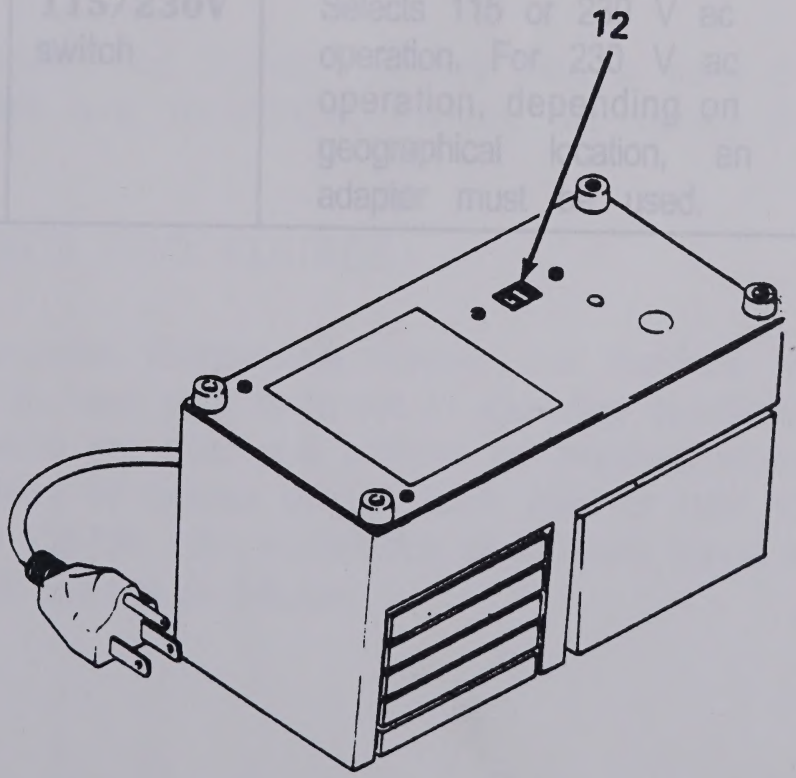
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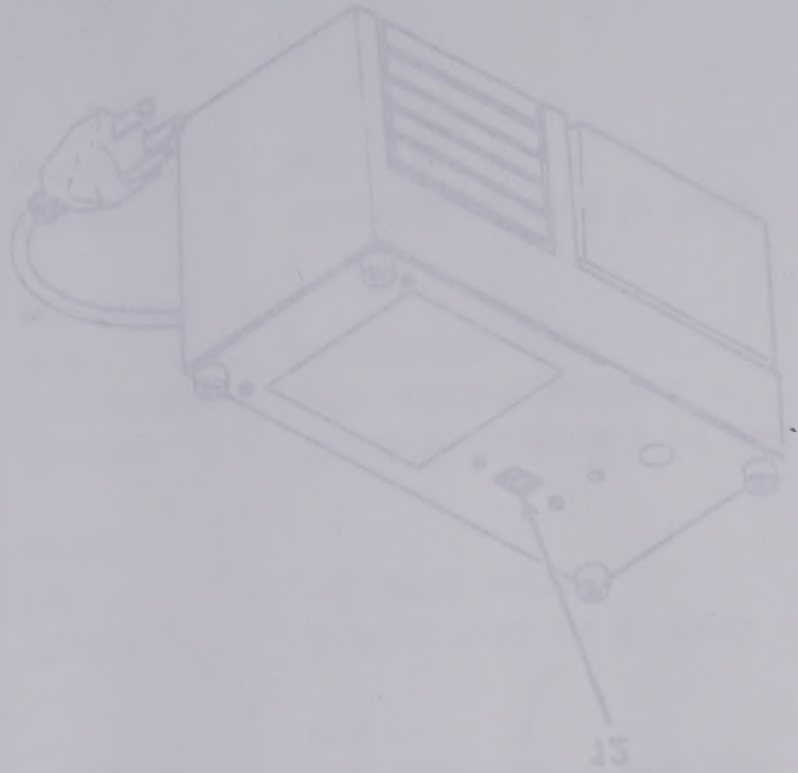
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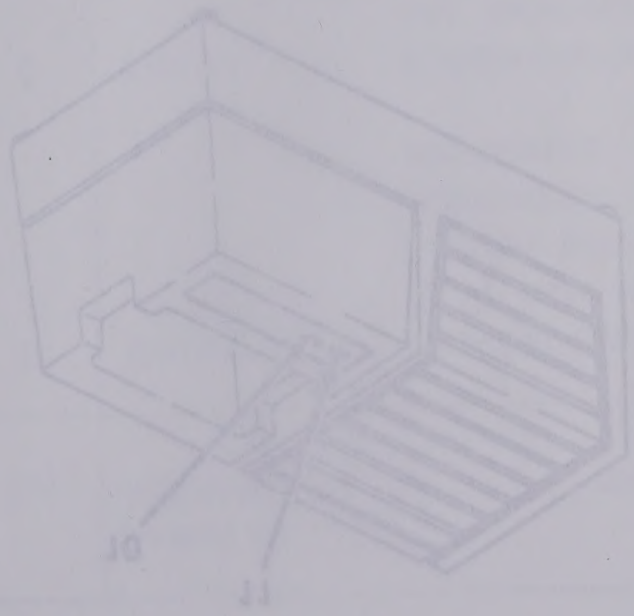
J0
J1

2-2. CONTROLS AND INDICATORS - CONT

Key	Control or Indicator	Function
10	LOW indicator	Green lamp lights to indicate slow charge (minimum rate).
11	HIGH indicator	Red lamp lights to indicate fast charge up to 90% charge (maximum rate).
12	**115/230V** switch	Selects 115 or 230 V ac operation. For 230 V ac operation, depending on geographical location, an adapter must be used.

Section II.
PREVENTIVE MAINTENANCE CHECKS AND SERVICES

2-3. GENERAL

To ensure the radio set is always ready for operation, it must be inspected as required so that defects may be discovered and corrected before they cause serious damage or failure.

a. *Before* **You Operate. Always keep in mind the CAUTIONS and WARNINGS. Perform the before (B) PMCS.**

b. **While You** *Operafe.* **Always keep in mind the CAUTIONS and WARNINGS. Perform the during (D) PMCS.**

2-4. PMCS PROCEDURES

The Preventive Maintenance Checks and Services are. required to keep your radio set in operating condition. If the radio set does not perform as required, report malfunctions or failures on DA Form 2404 or refer to DA Pam 738-750. An explanation of columns found in the PMCS chart is as follows:

Section II.
PREVENTIVE MAINTENANCE CHECKS AND SERVICES

2-3. GENERAL

To ensure the radio set is always ready for operation, it must be inspected as required so that defects may be discovered and corrected before they cause serious damage or failure.

a. Before You Operate. Always keep in mind the CAUTIONS and WARNINGS. Perform the before (B) PMCS.

b. While You Operate. Always keep in mind the CAUTIONS and WARNINGS. Perform the during (D) PMCS.

2-4. PMCS PROCEDURES

The Preventive Maintenance Checks and Services are required to keep your radio set in operating condition. If the radio set does not perform as required, report malfunctions or failures on DA Form 2404 or refer to DA Pam 738-750. An explanation of columns found in the PMCS chart is as follows:

- Interval Column - This column tells you when to do a certain check or service.

- Items to be Inspected Column - This column tells you what item to check or service.

- Procedure Column - This column tells you how to perform a service or check.

- Equipment Not Ready/Available If Column - This column tells you when and why the equipment cannot be used.

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- Equipment Not Ready/Available If Column - This column tells you when and why the equipment cannot be used.

OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

B-Before D-During

ITEM NO	INTERVAL B	INTERVAL D	ITEM TO BE INSPECTED	PROCEDURES CHECK FOR AND HAVE REPAIRED OR ADJUSTED AS NECESSARY	FOR READINESS REPORTING EQUIPMENT NOT READY/ AVAILABLE IF:
1	0		Antenna	Not broken, firmly secured.	Broken, loose, or missing.
2	0		Operating controls	Not missing or loose, operate smoothly without binding.	Loose, missing, or binding.

OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

B-Before D-During

ITEM NO	INTERVAL B	INTERVAL D	ITEM TO BE INSPECTED	PROCEDURES CHECK FOR AND HAVE REPAIRED OR ADJUSTED AS NECESSARY	FOR READINESS REPORTING EQUIPMENT NOT READY/ AVAILABLE IF:
1	o		Antenna	Not broken, firmly secured.	Broken, loose, or missing.
2	o		Operating controls	Not missing or loose, operate smoothly without binding.	Loose, missing, or binding.

OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONT

B-Before D-During

ITEM NO.	INTERVAL B	INTERVAL D	ITEM TO BE INSPECTED	PROCEDURES CHECK FOR AND HAVE REPAIRED OR ADJUSTED AS NECESSARY	FOR READINESS REPORTING EQUIPMENT NOT READY/ AVAILABLE IF:
3	o		Speaker/ microphone	Not broken, firmly secured.	Broken, loose, or missing.
4		o	Basic operation	Unit on, set to assigned channel, communicate with distant station.	Distant station cannot hear you or you cannot hear distant station.

OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONT

ITEM NO	INTERVAL B-Before	INTERVAL D-During	ITEM TO BE INSPECTED	PROCEDURES CHECK FOR AND HAVE REPAIRED OR ADJUSTED AS NECESSARY	FOR READINESS REPORTING EQUIPMENT NOT READY/ AVAILABLE IF:
3	o		Speaker/ microphone	Not broken, firmly secured.	Broken, loose, or missing.
4	o		Basic operation	Unit on, set to assigned channel, communicate with distant station.	Distant station cannot hear you or you cannot hear distant station.

OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONT

B-Before D-During

ITEM NO.	INTERVAL B	INTERVAL D	ITEM TO BE INSPECTED	PROCEDURES CHECK FOR AND HAVE REPAIRED OR ADJUSTED AS NECESSARY	FOR READINESS REPORTING EQUIPMENT NOT READY/ AVAILABLE IF:
5		0	Battery pack	Unit on, not transmitting.	Will not receive or transmit.
6		0	Battery charger	Unit on, not charging.	HIGH or LOW lamps not lighted.

Section III.
OPERATION UNDER USUAL CONDITIONS

2-5. ASSEMBLY AND PREPARATION FOR USE

This radio set was carefully inspected both mechanically and electrically before shipment. It should be physically free of mars or scratches. Upon receipt, inspect the radio set as follows:

a. **During unpacking, inspect the radio set for physical damage that may have occurred during shipment. If the equipment has been damaged, report the damage on SF 364, Report of Discrepancies (ROD).**

b. **Check the radio and supplied accessories against the packing slip to ensure the shipment is complete.**

c. **Assemble radio set as required in accordance with paragraphs 2-6 thru 2-10.**

Section III.
OPERATION UNDER USUAL CONDITIONS

2-5. ASSEMBLY AND PREPARATION FOR USE

This radio set was carefully inspected both mechanically and electrically before shipment. It should be physically free of mars or scratches. Upon receipt, inspect the radio set as follows:

a. During unpacking, inspect the radio set for physical damage that may have occurred during shipment. If the equipment has been damaged, report the damage on SF 364, Report of Discrepancies (IDD).

b. Check the radio and supplied accessories against the packing slip to ensure the shipment is complete.

c. Assemble radio set as required in accordance with paragraphs 2-6 thru 2-10.

2-6. BATTERY PACK INSTALLATION/ REMOVAL

WARNING

- **Batteries can explode if exposed to extreme heat. Do not store battery packs with other hazardous materials. Store in a cool [less than 130°F (54°C)], dry, well-ventilated area to prevent injury to personnel or damage to equipment.**

- **Batteries contain corrosive material that can cause injury to personnel. Do not crush, puncture, mutilate, or disassemble battery packs.**

CAUTION

To prevent damage to R/T, only use battery packs (item 1 or 2, Appx D) authorized for this equipment.

2-6. BATTERY PACK INSTALLATION/REMOVAL

WARNING

- Batteries can explode if exposed to extreme heat. Do not store battery packs with other hazardous materials. Store in a cool (less than 120°F (54°C)), dry, well-ventilated area to prevent injury to personnel or damage to equipment.

- Batteries contain corrosive material that can cause injury to personnel. Do not crush, puncture, mutilate, or disassemble battery packs.

CAUTION

To prevent damage to INT, only use battery packs (Item 1 or 2, Appx D) authorized for this equipment.

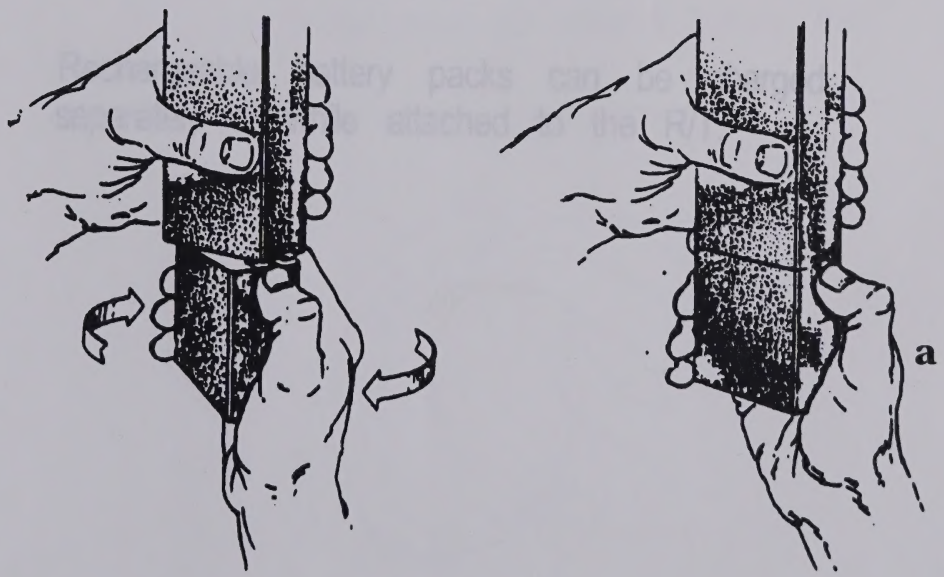
a. Installation

(1) Locate center hub on R/T base and place it in recess of battery pack.

(2) Position battery pack at 30 degrees, seating two metal studs in their recesses.

(3) Apply upward pressure to battery pack while twisting battery pack clockwise to its original position.

(4) The metal tab on side of R/T will click, locking battery pack into position.



b. Removal

(1) Ensure OFF-VOL control is set to OFF.

(2) Push metal tab on side of R/T upward while twisting battery pack counterclockwise approximately 30 degrees.

(3) Remove battery pack from R/T

(4) Check contacts on bottom of battery pack for dirt or corrosion. Dirt may prevent a good electrical contact with the battery charger.

NOTE

Rechargeable battery packs can be charged separately or while attached to the R/T.

b. Removal

(1) Ensure OFF-VOL control is set to OFF.

(2) Push metal tab on side of RT upward while twisting battery pack counterclockwise approximately 30 degrees.

(3) Remove battery pack from RT.

(4) Check contacts on bottom of battery pack for dirt or corrosion. Dirt may prevent a good electrical contact with the battery charger.

NOTE

Rechargeable battery packs can be charged separately or while attached to the RT.

2-7. ALKALINE BATTERIES INSTALLATION/ REMOVAL

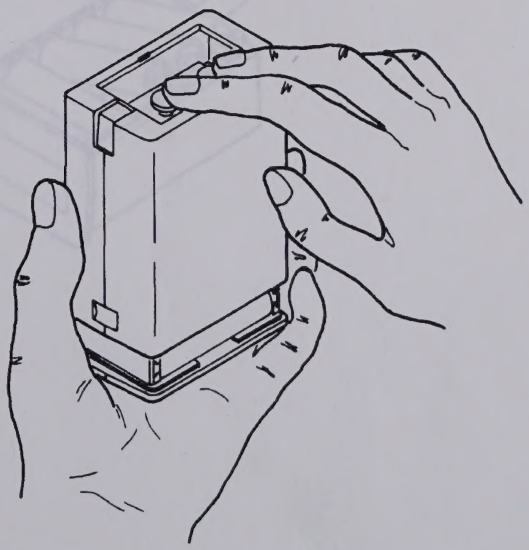
WARNING

Do not dispose of alkaline batteries in fire. Do not recharge batteries, put in backwards, or mix with used or other battery types. Alkaline batteries may explode, leak, and cause injury to personnel or damage to equipment.

a. *Battery Pack Cover Removal*

(1) While holding battery pack, press down on two metal studs to release battery tray.

(2) Remove battery pack cover.



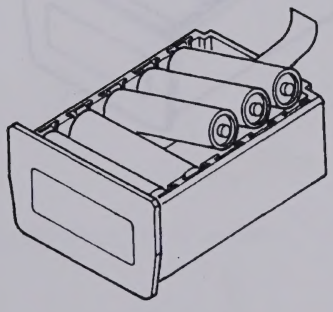
b. Alkaline Batteries Installation

CAUTION

To prevent damage to equipment, alkaline batteries must be installed in the same direction for each side of the battery tray.

(1) Lay ribbon flat and install five alkaline batteries in direction shown in battery tray.

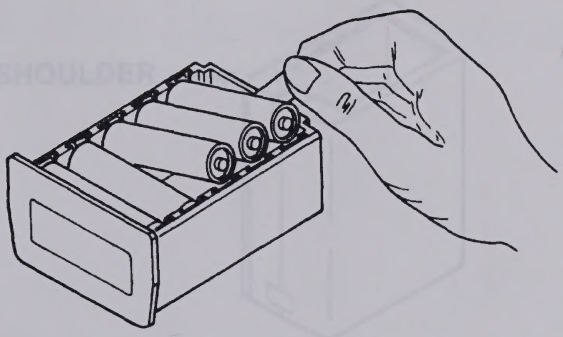
(2) Turn battery tray over and repeat step (1) for five remaining batteries.

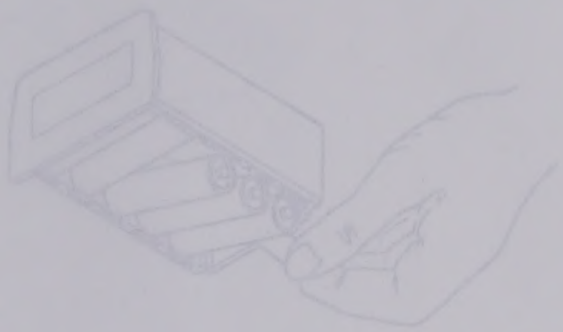


c. Alkaline Batteries Removal

(1) While holding battery tray flat, slowly pull on ribbon and remove five batteries.

(2) **Turn battery tray over and repeat step (1).**





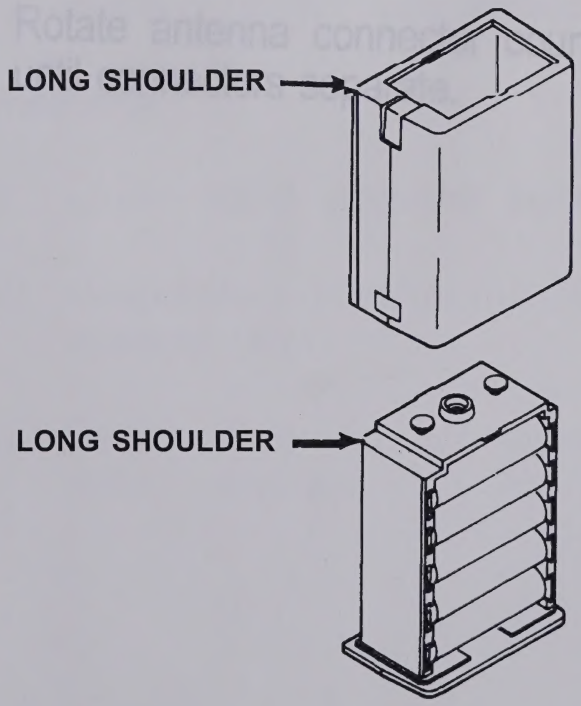
d. Battery Pack Cover Installation

NOTE

There is a long and a short shoulder on the battery tray. The long shoulder aligns with the long shoulder of the battery pack cover.

(1) Install battery pack cover over battery tray.

(2) Push down on battery pack cover until it locks in place on battery tray.



LONG SHOULDER
LONG SHOULDER

2-9. ANTENNA INSTALLATION/REMOVAL

a. Installation

(1) Mate antenna connector with antenna connector on radio set.

(2) Rotate antenna connector clockwise until secure (hand tight).

b. *Removal*

(1) Grasp antenna where connectors **mate.**

(2) Rotate antenna connector counterclockwise until connectors separate.

2-9. ANTENNA INSTALLATION/REMOVAL

a. Installation

(1) Mate antenna connector with antenna connector on radio set.

(2) Rotate antenna connector clockwise until secure (hand tight).

b. Removal

(1) Grasp antenna where connectors mate.

(2) Rotate antenna connector counterclockwise until connectors separate.

2-8. SPEAKER/MICROPHONE INSTALLATION/ REMOVAL

a. Installation

(1) Disengage cover from R/T speaker/ microphone audio connectors.

(2) Mate speaker/microphone cable connector to R/T speaker/microphone audio connector.

(3) Secure speaker/microphone cable connector to R/T with **connector screw.**

b. Removal

(1) Loosen **cable connector screw.**

(2) Separate speaker/microphone cable connector from R/T.

(3) Secure cover on R/T speaker/microphone audio connectors.

2-8. SPEAKER/MICROPHONE INSTALLATION/ REMOVAL

a. Installation

(1) Disengage cover from R/T speaker/ microphone audio connectors.

(2) Mate speaker/microphone cable connector to R/T speaker/microphone audio connector.

(3) Secure speaker/microphone cable connector to R/T with connector screw.

b. Removal

(1) Loosen cable connector screw.

(2) Separate speaker/microphone cable connector from R/T.

(3) Secure cover on R/T speaker/microphone audio connectors.

2-10. DOOR COVER INSTALLATION/REMOVAL

CAUTION

To prevent damage to door cover, avoid rough handling. When attempting to install, ensure edges of door cover are properly aligned with mounting grooves. Do not force door covers onto R/T.

a. Installation

(1) Remove battery pack from R/T as described in paragraph 2-6.

(2) Locate mounting tab on door cover.

(3) With mounting tab down, aline door cover with mounting grooves on R/T and slide door cover upward until stopped by mounting tab against bottom edge of R/T.

(4) Lift up gently on bottom edge of door cover and slide door cover upward until stopped against top edge of display.

2-10. DOOR COVER INSTALLATION/REMOVAL

CAUTION

To prevent damage to door cover, avoid rough handling. When attempting to install, ensure edges of door cover are properly aligned with mounting grooves. Do not force door covers onto RVT.

a. Installation

(1) Remove battery pack from RVT as described in paragraph 2-6.

(2) Locate mounting tab on door cover.

(3) With mounting tab down, align door cover with mounting grooves on RVT and slide door cover upward until stopped by mounting tab against bottom edge of RVT.

(4) Lift up gently on bottom edge of door cover and slide door cover upward until stopped against top edge of display.

(5) Release door cover and gently press down and upward to seat mounting tab into depression on R/T.

b. Removal

(1) **Remove battery pack from R/T as described in paragraph 2-6.**

(2) **On R/T, gently lift up on bottom edge of door cover to clear mounting tab.**

(3) While continuing to lift up on door cover, slide door cover downward to clear mounting grooves.

(5) Release door cover and gently press down and upward to seat mounting tab into depression on RT.

b. Removal

(1) Remove battery pack from RT as described in paragraph 2-6.

(2) On RT, gently lift up on bottom edge of door cover to clear mounting tab.

(3) While continuing to lift up on door cover, slide door cover downward to clear mounting groves.

2-1 1. NORMAL OPERATION

a. Turn power on by rotating OFF-VOL control clockwise past OFF detent.

b. Select appropriate channel 1 thru 14 using channel select control.

c. Rotate **CG-SQ** control clockwise past **CG** detent until rushing noise is heard.

d. Adjust **OFF-VOL control for comfortable level.**

e. **Rotate** CG-SQ **control counterclockwise until rushing noise stops. This is called squelch** threshold setting.

NOTE

Warning beep will sound if transmitting on a channel that is not programmed with a valid frequency.

f. Press push-to-talk control and speak into built-in speaker/microphone to transmit.

g. Release push-to-talk control to listen.

h. To turn off radio set, rotate OFF-VOL control fully counterclockwise.

a. Turn power on by rotating OFF-VOL control clockwise past OFF detent.

b. Select appropriate channel 1 thru 14 using channel select control.

c. Rotate CG-SQ control clockwise past CG detent until muting noise is heard.

d. Adjust OFF-VOL control for comfortable level.

e. Rotate CG-SQ control counterclockwise until muting noise stops. This is called squelch threshold setting.

NOTE

Warning beep will sound if transmitting on a channel that is not programmed with a valid frequency.

f. Press push-to-talk control and speak into built-in speaker/microphone to transmit.

g. Release push-to-talk control to listen.

h. To turn off radio set, rotate OFF-VOL control fully counterclockwise.

2-12. BATTERY CHARGER OPERATION

CAUTION

- To prevent damage to battery charger, do not attempt to charge an alkaline battery pack. Only a Ni-Cd battery pack can be recharged.

- To prevent damage to battery charger, do not connect battery charger to 230 V ac with 1 **15V/230V** switch set to **115V.**

NOTE

For 230 V ac operation, depending on geographical location, an adapter must be used.

a. Set **115V/230V** switch on bottom of battery charger to applicable position.

b. Connect battery charger to electrical outlet for selected voltage.

2-12. BATTERY CHARGER OPERATION

CAUTION

- To prevent damage to battery charger, do not attempt to charge an alkaline battery pack. Only a Ni-Cd battery pack can be recharged.

- To prevent damage to battery charger, do not connect battery charger to 230 V ac with the 115V/230V switch set to 115V.

NOTE

For 230 V ac operation, depending on geographical location, an adapter must be used.

a. Set 115V/230V switch on bottom of battery charger to applicable position.

b. Connect battery charger to electrical outlet for selected voltage.

c. Place R/T with attached battery pack or battery pack alone into battery charger cradle.

NOTE

The battery charger is fully automatic and provides the proper charge rate and charge rate indication.

d. Observe LOW and HIGH indicators on battery charger. If battery pack charge is extremely low, HIGH (red) indicator on battery charger will light to indicate maximum charge rate in progress. After battery pack reaches 90% charge, LOW (green) indicator on battery charger will light to indicate minimum rate of charge (trickle charge) in progress.

c. Place RVT with attached battery pack or battery pack alone into battery charger cradle.

NOTE

The battery charger is fully automatic and provides the proper charge rate and charge rate indication.

d. Observe LOW and HIGH indicators on battery charger. If battery pack charge is extremely low, HIGH (red) indicator on battery charger will light to indicate maximum charge rate in progress. After battery pack reaches 90% charge, LOW (green) indicator on battery charger will light to indicate minimum rate of charge (trickle charge) in progress.

Section IV.
OPERATION UNDER UNUSUAL CONDITIONS

2-13. OPERATION AT LOW TEMPERATURES

The radio set can operate to -11 ^{o}F (-24^{o}C). However, you must keep the operating controls and connectors free of ice. The same holds true for the antenna as ice on the antenna will reduce or distort the signal. The battery should be kept as warm as possible.

2-14. OPERATION AT HIGH TEMPERATURES

This radio set can operate to +111^{o}F (+44^{o}C). However; in hot, dry climates, the connectors ahd operating controls are subject to damage from dust and dirt. When not in use, keep the connectors covered with the plug cover. Keep the operating controls as dust-free and dirt-free as possible. Constant exposure to the sun could cause damage, so try to keep the equipment out of the sun as much as possible.

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The radio set can operate to -11 °F (-24°C). However, you must keep the operating controls and connectors free of ice. The same holds true for the antenna as ice on the antenna will reduce or distort the signal. The battery should be kept as warm as possible.

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2-15. OPERATION IN TROPICAL CLIMATES

In warm, damp climates, the equipment is subject to damage from moisture and fungi. Wipe all moisture and fungi from the equipment with a dry, lint-free cloth.

2-1 6. OPERATION DURING JAMMING

A common jamming procedure is the transmission of a strong or annoying signal on your operating channel, making it difficult or impossible for you to maintain communications. Sometimes this signal may be from a friendly station. It is also possible that the unusual noise or interference may be due to a bad radio set. To check it out, do the following:

a. Disconnect the antenna in accordance with paragraph 2-9.

CAUTION

Do not key transmitter with antenna connector shorted out to prevent damage to equipment.

b. Short out the antenna connector with available material.

2-15. OPERATION IN TROPICAL CLIMATES

In warm, damp climates, the equipment is subject to damage from moisture and fungi. Wipe all moisture and fungi from the equipment with a dry, lint-free cloth.

2-16. OPERATION DURING JAMMING

A common jamming procedure is the transmission of a strong or annoying signal on your operating channel, making it difficult or impossible for you to maintain communications. Sometimes this signal may be from a friendly station. It is also possible that the unusual noise or interference may be due to a bad radio set. To check it out, do the following:

a. Disconnect the antenna in accordance with paragraph 2-9.

CAUTION

Do not key transmitter with antenna connector shorted out to prevent damage to equipment.

b. Short out the antenna connector with available material.

c. If you still have noise or interferences, you have a bad radio set. If the noise or interference goes away, you are being jammed. Report jamming as soon as possible to officer in charge. One or more of the following antijamming procedures may allow you to continue operating the radio set.

(1) Try to use a nearby obstruction as a screen. Position yourself so that the obstruction acts as a screen between the radio and the possible source of interference.

(2) Point your radio in the direction of the distant station you are communicating with. Try several positions.

(3) Change the setting of the VOL control. This may raise the level of the desired signal enough to be heard over the jamming signal.

(4) If none of the above works, get permission to change to another channel.

c. If you still have noise or interferences, you have a bad radio set. If the noise or interference goes away, you are being jammed. Report jamming as soon as possible to officer in charge. One or more of the following antijamming procedures may allow you to continue operating the radio set.

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(2) Point your radio in the direction of the distant station you are communicating with. Try several positions.

(3) Change the setting of the VOL. control. This may raise the level of the desired signal enough to be heard over the jamming signal.

(4) If none of the above works, get permission to change to another channel.

CHAPTER 3
MAINTENANCE INSTRUCTIONS

Section I.
LUBRICATION INSTRUCTIONS

The radio set does not require any lubrication.

Section II.
TROUBLESHOOTING PROCEDURES

Other than replacing a suspected defective battery pack (paragraph 2-6) or replacing alkaline batteries (paragraph 2-7), no operator troubleshooting is authorized for the radio set. Any trouble detected by you is to be reported to unit maintenance personnel.

Section III.
MAINTENANCE PROCEDURES

Operator maintenance of the radio set and battery charger is limited to keeping it as clean as possible at all times. Use clean, lint-free cloth (item 3, Appx D) to do this.

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APPENDIX A
REFERENCES

A-1. SCOPE

This appendix lists all forms, technical manuals, and miscellaneous publications that are referenced in this manual or that contain information applicable to the operation and maintenance of the radio set.

A-2. FORMS

Recommended Changes to Equipment Technical Manuals . . . . . DA Form 2028-2

Equipment Inspection and Maintenance Worksheet . . . . . DA Form 2404

Transportation Discrepancy Report (TDR) . . . . . Form SF 361

Report of Discrepancy (ROD) . . . . . Form SF 364

Product Quality Deficiency Report . . . . . Form SF 368

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Transportation Discrepancy
Report (TDR) . . . . . Form SF 361

Report of Discrepancy (ROD) . . . . . Form SF 364

Product Quality
Deficiency Report. . . . . Form SF 368

A-3. TECHNICAL MANUALS

Procedure for Destruction of Electronics Materiel to Prevent Enemy Use (Electronics Command) . . . .TM 750-244-2

Unit, Direct and General Support Maintenance Manual (Including Repair Parts and Special Tools List).....TM 11–5820–1048–24&P

A-4. MISCELLANEOUS

Consolidated Index of Army Publications and Blank Forms .....DA Pam25-30

The Army Maintenance Management System (TAMMS).....DA Pam 738-750

Warranty Program for Radio Set AN/PRC-1267 Receiver/Transmitter RT–1594/PRC–127.....TB 11–5820–1048–35

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Consolidated Index of Army Publications and Blank Forms ..... DA Pam 25-30

The Army Maintenance Management System (TAMMS) ..... DA Pam 738-750

Warranty Program for Radio Set AN/PRC-127 Receiver/Transmitter RT-1594/PRC-127 ..... TB 11-5820-1048-35

APPENDIX B
COMPONENTS OF END ITEM AND BASIC ISSUE ITEMS LIST

Section I.
INTRODUCTION

B-I . SCOPE

This appendix lists components of end item and basic issue items for the radio set to help you inventory items required for safe and efficient operation.

B-2. GENERAL

The Components of End Item and Basic issue Items Lists are divided into the following sections:

a. Section II. Components of End Item. **This listing is for informational purposes only, and is not authority to requisition replacements. These items are part of the end item, but are removed and separately packaged for transportation or shipment. As part of the end item, these items must be with the end item whenever it is issued or transferred between property accounts. Illustrations are furnished to assist you in identifying the items.**

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b. Section III. Basic Issue Items. These are the minimum essential items required to place the radio set in operation, to operate it, and to perform emergency repairs.

B-3. EXPLANATION OF COLUMNS

The following provides an explanation of columns found in the tabular listings:

a. Column (1) • Illustration Number (Illus No.). This column indicates the reference number of the item as shown on the illustration.

b. *Column (2) • National Stock Number.* Indicates the National stock number assigned to the item and will be used for requisitioning purposes.

c. Column (3) • Description. Indicates the National item name and, if required, a minimum description to identify and locate the item. The last line for each item indicates the CAGE (in parentheses) followed by the part number.

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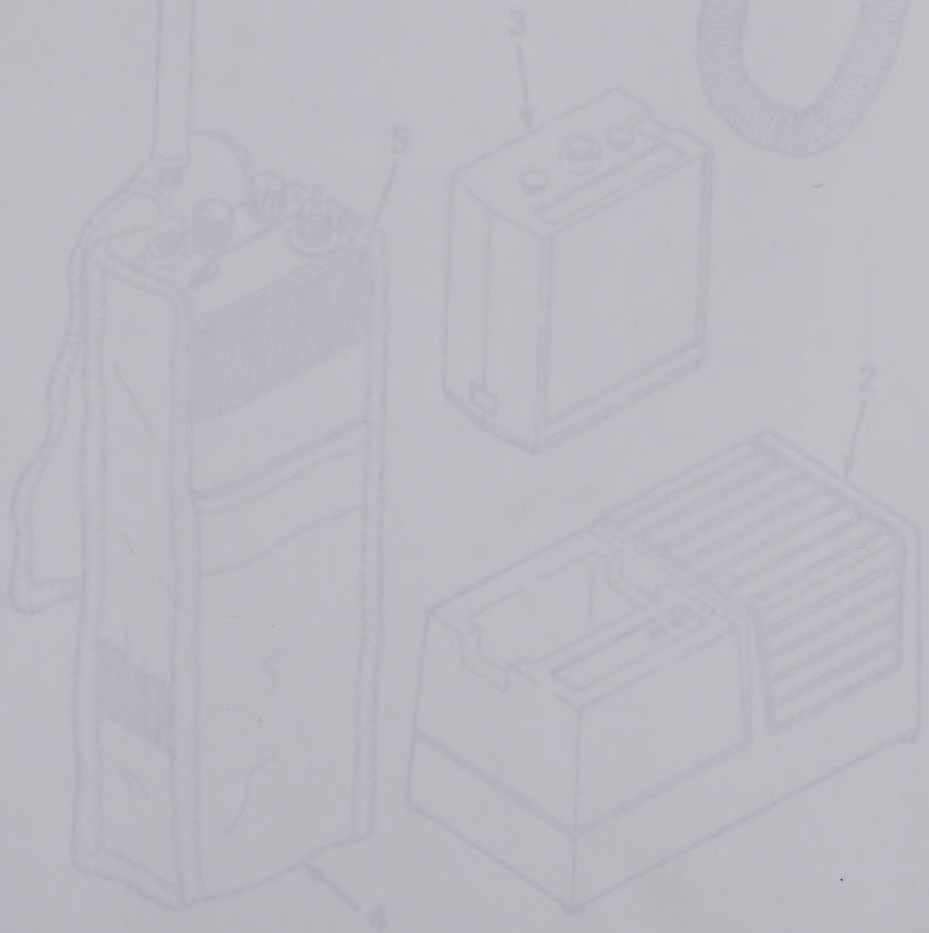
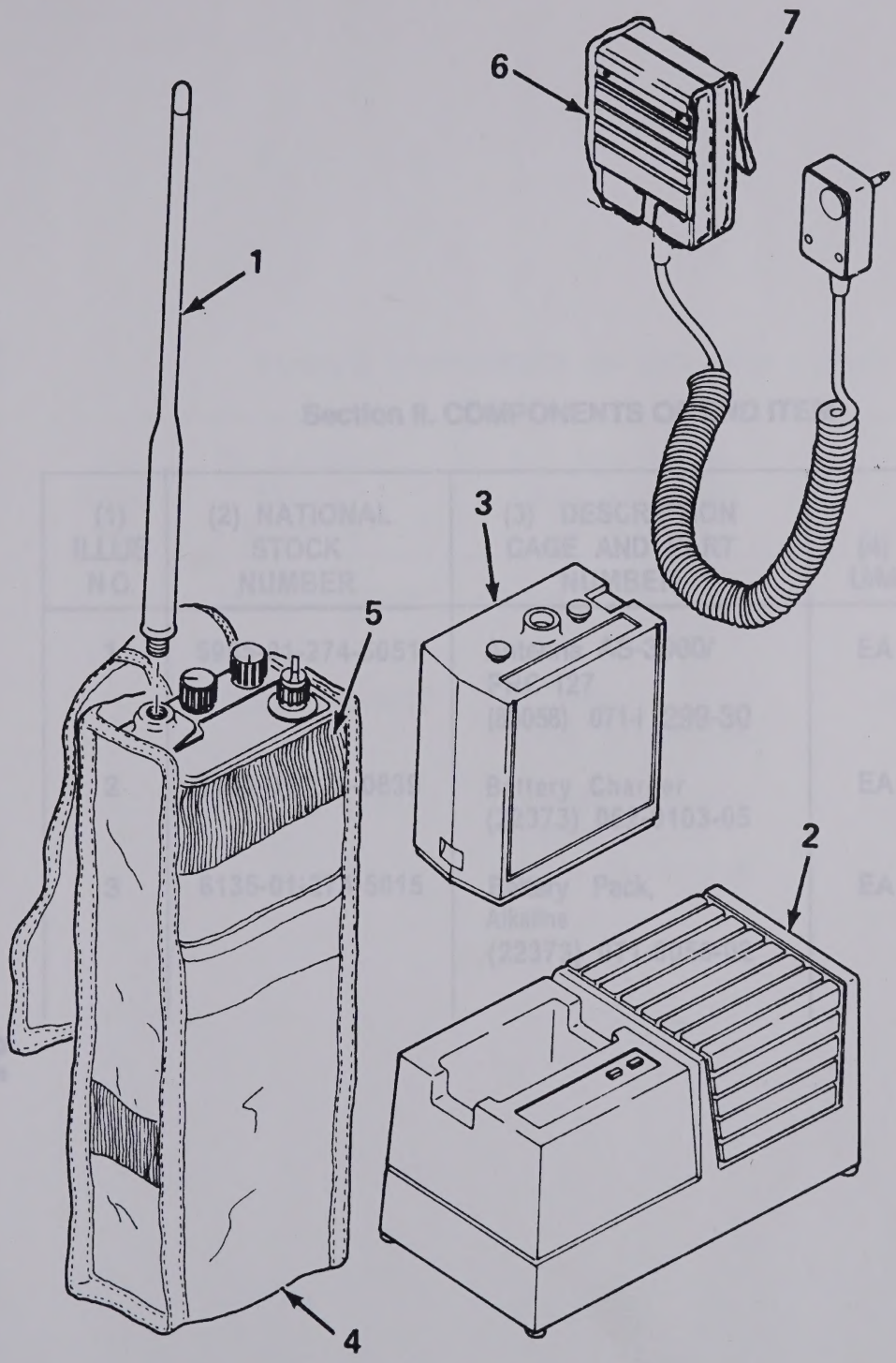
d. *Column* (4) - *Unit of Measure (U/M).* Indicates the measure used in performing the actual operation/maintenance function. This measure is expressed by a two-character alphabetical abbreviation; e.g., ea, in., pr.

e. *Column (5) - Quantity Required (Qty Reqd).* Indicates the quantity of the item authorized to be used with/on the equipment.




1
2
3
4
5
6
7

Section II. COMPONENTS OF END ITEM

(1) ILLUS NO.	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION CAGE AND PART NUMBER	(4) U/M	(5) QTY REQD
1	5985-01-274-5051	Antenna AS-3960/ PRC-127 (80058) 071-I 299-30	EA	1
2	6130-01-274-0839	Battery Charger (22373) 062-0103-05	EA	1
3	6135-01-274-5015	Battery Pack, Alkaline (22373) 071-0056-02	EA	1

Section II. COMPONENTS OF END ITEM

(1) ILLUS NO.	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION CAGE AND PART NUMBER	(4) U/M	(5) QTY REQD
1	5985-01-274-3051	Antenna AS-3990/ PRC-127 (80058) 0711 290-30	EA	1
2	6130-01-274-0839	Battery Charger (22273) 052-0103-08	EA	1
3	6135-01-274-5015	Battery Pack, Alkaline (22273) 071-0059-02	EA	1

Section II. **COMPONENTS OF END ITEM • CONT**

(1) ILLUS NO.	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION CAGE AND PART NUMBER	(4) U/M	(5) QTY REQD
	6140-01-274-0835	Battery Pack, Ni-Cd (22373) 200-3224-07	EA	1
4	8105-01-276-4810	R/T Holster (22373) 071-0059-00	EA	1
5	5820-01-274-5063	Receiver/Transmitter RT-1594/PRC-127 (80058) 062-0118-00	EA	1

Section II. COMPONENTS OF END ITEM • CONT

(1) ILLUS NO.	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION CAGE AND PART NUMBER	(4) U/M	(5) QTY REQD
6	5965-01-274-5016	Speaker/Microphone (22373) 071-3012-I 0	EA	1
7	5965-01-292-8307	Speaker/Microphone Cover	EA	1

(1) ILLUS NO	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION CAGE AND PART NUMBER	(4) U/M	(5) QTY REQD
6	5965-01-274-5016	Speaker\Microphone (22373) 0711-3012-1 0	EA	1
7	5965-01-282-8307	Speaker\Microphone Cover	EA	1

Section III. BASIC ISSUE ITEMS

(1) ILLUS NO.	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION CAGE AND PART NUMBER	(4) U/M	(5) QTY REQD
NA	5826-01-2166-5966	Technical Manual TM 11-5820-I 048-I 0	EA	1

Section III. BASIC ISSUE ITEMS

(1) ILLUS NO	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION CAGE AND PART NUMBER	(4) U/M	(5) QTY REQD
NA	5820-01-2166-6088	Technical Manual TM 11-5820-I 048-I 0	EA	1

APPENDIX D
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

Section I.
INTRODUCTION

D-I . SCOPE

This appendix lists expendable supplies and materials you will need to operate and maintain the radio set. These items are authorized to you by CTA-50-970, Expendable Items (Except Medical, Class V, Repair Parts, and Heraldic Items).

D-2. EXPLANATION OF COLUMNS

a. Column (7) - *Item* Number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material; e.g., "Use lint-free cloth, item 3, Appx D."

b. Column **(2) - Level. This column identifies the lowest level of maintenance that requires the listed item.**

C - **Operator/Crew**
0 - Unit Maintenance

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D-2. EXPLANATION OF COLUMNS

a. Column (1) - Item Number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material; e.g., "Use lint-free cloth, item 3, Appx D."

b. Column (2) - Level. This column identifies the lowest level of maintenance that requires the listed item.

C - Operator/Crew
O - Unit Maintenance

c. *Column (3) - National Stock Number.* This **is the National stock number assigned to the item; use it to request or requisition the item.**

d. *Column (4) - Description.* **Indicates the Federal item name and, if required, a description to identify the item. The last line for each item indicates the Commercial and Government Entity (CAGE) code in parentheses followed by the part number.**

e. *Column (5) - Unit of Measure (U/M).* **Indicates measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation; e.g., ea, in., pr. If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satify your requirements.**

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
1	0	6135-01-274-5015	Battery Pack, Alkaline (22373) 071-0056-02	EA
2	0	6140-01-274-0835	Battery Pack, Ni-Cd (22373) 200-3224-07	EA
3	0	7920-00-965-4960	Cloth, Lint-Free (81348) CCC-C-444	YD

By Order of the Secretary of the Army:

CARL E. VUONO
General, United States Army
Chief of Staff

Official:

PATRICIA P. HICKERSON
Colonel, United States Army
The Adjutant General

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